Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A radiation detector for detecting radiation according to a predefined spectral sensitivity distribution that exhibits a maximum at a predefined wavelength λ_0, comprising a semiconductor body with an active region serving to generate a detector signal and intended to receive radiation,

wherein said active region comprises a plurality of functional layers, at least two of said functional layers having different band gaps, ~~and/or thicknesses and~~ each one of the functional layers being implemented to absorb at least some of the radiation, and wherein at least a part of ~~such that~~ said functional layers ~~at least partially~~ absorbs radiation in a wavelength range that includes wavelengths greater than the wavelength λ_0.

2. (Previously Presented) The radiation detector as in claim 1, wherein said predefined spectral sensitivity distribution is that of the human eye.

3. (Previously Presented) The radiation detector as in claim 1, wherein said semiconductor body contains at least one III/V semiconductor material.

4. (Previously Presented) The radiation detector as in claim 1, wherein disposed after said active region is a filter layer structure comprising at least one filter layer, which filter layer structure determines the short-wave side of the detector sensitivity in accordance with the

predefined spectral sensitivity distribution by absorbing radiation in a wavelength range that includes wavelengths smaller than λ_0.

5. (Currently Amended) A radiation detector for detecting radiation in accordance with the predefined spectral sensitivity distribution of the human eye, which exhibits a maximum at the wavelength λ_0', comprising a semiconductor body with an active region serving to generate a detector signal and intended to receive radiation,

wherein said semiconductor body contains at least one III/V semiconductor material and said active region comprises a plurality of functional layers[[.]], and

wherein each one of said functional layers is configured to absorb at least some of the radiation.

6. (Previously Presented) The radiation detector as in claim 5, wherein said functional layers at least partially absorb radiation in a wavelength range that includes wavelengths greater than the wavelength λ_0'.

7. (Previously Presented) The radiation detector as in claim 5, wherein said functional layers have different band gaps and/or thicknesses.

8. (Previously Presented) The radiation detector as in claim 5, wherein disposed after said active region is a filter layer structure comprising at least one filter layer, which filter layer structure determines the short-wave side of the detector sensitivity in accordance with said predefined spectral sensitivity distribution by absorbing radiation in a wavelength range that includes wavelengths smaller than λ_0'.

9. (Currently Amended) A radiation detector for detecting radiation in accordance with a predefined spectral sensitivity distribution that exhibits a maximum at a predefined wavelength

λ_0, comprising a semiconductor body with an active region serving to generate detector signals and intended to receive radiation,

wherein said active region comprises a plurality of functional layers, at least two of said functional layers having different band gaps and each of the functional layers is implemented to absorb at least some of the radiation, and

wherein disposed after said active region is a filter layer structure comprising at least one filter layer, which filter layer structure determines the short-wave side of said detector sensitivity in accordance with said predefined spectral sensitivity distribution by absorbing radiation in a wavelength range that includes wavelengths smaller than λ_0.

10. (Previously Presented) The radiation detector as in claim 9, wherein said predefined spectral sensitivity distribution is that of the human eye.

11. (Previously Presented) The radiation detector as in claim 9, wherein said semiconductor body contains at least one III/V semiconductor material.

12. Canceled.

13. (Currently Amended) The radiation detector as in claim [[12]] 9, wherein said functional layers at least partially absorb radiation in a wavelength range that includes wavelengths greater than the wavelength λ_0.

14. (Currently Amended) The radiation detector as in claim [[12]] 9, wherein said functional layers have different ~~band gaps and/or~~ thicknesses.

15. (Currently Amended) The radiation detector as in claim [[1]] 9, wherein said filter layer structure is disposed after said active region in the direction of the incident radiation.

16. (Currently Amended) The radiation detector as in claim [[1]] 9, wherein said filter layer structure ~~(70)~~ comprises a single filter layer ~~(7)~~ having a direct band gap and an indirect band gap.

17. (Previously Presented) The radiation detector as in claim 16, wherein said direct band gap is larger than the band gap of a functional layer disposed after said filter layer on the side nearer said active region.

18. (Previously Presented) The radiation detector as in claim 17, wherein said filter layer determines the short-wave side of said detector sensitivity by absorbing radiation via said indirect band gap in a wavelength range that includes wavelengths smaller than λ_0.

19. (Previously Presented) The radiation detector as in claim 16, wherein said direct band gap determines a short-wave limit of said detector sensitivity.

20. (Previously Presented) The radiation detector as in claim 16, wherein the thickness of said filter layer is greater than 1 μm, particularly 10 μm or more.

21. (Previously Presented) The radiation detector as in claim 1, wherein said filter layer structure comprises a plurality of filter layers of different band gaps and/or thickness.

22. (Previously Presented) The radiation detector as in claim 21, wherein said filter layer structure determines the short-wave side of said detector sensitivity by absorbing radiation via a direct band gap of the respective filter layer in a wavelength range that includes wavelengths smaller than λ_0.

23. (Previously Presented) The radiation detector as in claim 21, wherein said filter layer structure has a thickness of 1 μm or less.

24. (Previously Presented) The radiation detector as in claim 1, wherein said functional layers determine by their implementation the long-wave side of said detector sensitivity in accordance with said predefined spectral sensitivity distribution for wavelengths greater than λ_0.

25. (Previously Presented) The radiation detector as in claim 1, wherein the respective band gaps of functional layers disposed one after the other in said semiconductor body at least partially increase in the direction of the incident radiation.

26. (Previously Presented) The radiation detector as in claim 1, wherein said functional layers or at least a portion of said functional layers are substantially undoped.

27. (Previously Presented) The radiation detector as in claim 1, wherein said active region comprises at least one heterostructure.

28. (Currently Amended) The radiation detector as in claim 1, wherein said active region, particularly the functional layers, or said filter layer structure contains at least one III/V semiconductor material~~, preferably $In_xGa_yAl_{1-x-y}P$, $In_xGa_yAl_{1-x-y}As$ or $In_xGa_yAl_{1-x-y}N$, where in each case $0 \leq x \leq 1$, $0 \leq y \leq 1$ and $x + y \leq 1$~~.

29. (Previously Presented) The radiation detector as in claim 1, wherein said semiconductor body particularly the semiconductor body comprising said filter layer structure, is monolithically integrated.

30. (New) The radiation detector as in claim 28, wherein the at least one III/V semiconductor material comprises a material having a composition $In_xGa_yAl_{1-x-y}P$, $In_xGa_yAl_{1-x-y}As$, or $In_xGa_yAl_{1-x-y}N$, wherein in each case $0 \leq x \leq 1$, $0 \leq y \leq 1$ and $x + y \leq 1$.

31. (New) The radiation detector as in claim 5, wherein the at least one III/V semiconductor material comprises a material having a composition InxGayAl1-x-yP, InxGayAl1-x-yAs, or InxGayAl1-x-yN, wherein in each case $0 \leq x \leq 1$, $0 \leq y \leq 1$ and $x + y \leq 1$.